

## Lake Munson Lake Vegetation Index Results (8-25-2016)

The Lake Vegetation Index (LVI) is a multi-metric index that evaluates how closely a lake's plant community resembles one that would be expected in a condition of minimal human disturbance. It is based on a rapid field assessment of aquatic and wetland plants as indicators of various effects of human disturbance over time. Plants respond to physical disturbances such as introduction of exotic species or lakeshore alterations,

and chemical disturbance such as introduction of excess nutrients, particulates, or herbicides from the surrounding land uses.

The LVI method is performed from a boat, and involves dividing a lake into 12 units and identifying plants in 4 of the 12 units (Figure 1). Plants are identified in the selected unit by a visual boat "drive by" and also via a transect approach. The resulting data is used to calculate the LVI and is evaluated according to the scoring system in Table 1.

**TABLE 1. Category names, ranges of values for LVI, and example descriptions of biological conditions typically found for that category.**

Aquatic life use category	LVI Range	Description
Exceptional	78–100	Nearly every plant present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance.
Healthy	43–77	About 85% of plant taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15%.
Impaired	0–42	About 70% of plant taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive.

The Lake Vegetation Index score for Lake Munson was 58, placing the lake's vegetative community in the healthy category.

Seventy three species were found during the survey. The native species pond cypress (*Taxodium ascendens*) was the most dominant species in the lake. Other native shoreline vegetation included; red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*) and swamp tupelo (*Nyssa sylvatica biflora*).

Unfortunately, camphor tree (*Cinnamomum camphora*), wild taro (*Colocasia esculenta*), Chinese privet (*Ligustrum sinense*), wandering jew (*Tradescantia fluminensis*)

paragrass (*Urochloa mutica*) Mexican bluebell (*Ruellia simplex*) and Chinese tallow (*Sapium sebiferum*), all listed as Category I Invasive Exotics (Florida Exotic Pest Control Council <http://www.fleppc.org/>) were found in the littoral zone of Lake Munson. Alligator weed (*Alternanthera philoxeroides*) and Chinese wisteria (*Wisteria sinensis*) are Category II Invasive Exotics found in the lake. Other non-native species in and around the lake include burhead sedge (*Oxycaryum cubense*), and water spangles (*Salvinia minima*).

For a complete list of plants found during the LVI survey, please see Table 2.

**TABLE 2. Scientific and common names of the plants identified during the Lake Munson LVI survey (8-25-16).**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Acer rubrum</i>	red maple
<i>Adiantum</i> sp.	maidenhair fern
<b><i>Alternanthera philoxeroides(II)</i></b>	alligator weed
<i>Ampelopsis arborea</i>	peppervine
<i>Baccharis glomeruliflora</i>	silverling
<i>Bidens laevis</i>	smooth beggartick
<i>Boehmeria cylindrica</i>	false nettle
<i>Campsis radicans</i>	trumpet vine
<i>Canna flaccida</i>	golden canna
<i>Carex decomposita</i>	cypressknee sedge
<i>Carex lupulina</i>	hop sedge
<i>Carex</i> sp.	sedge
<i>Catalpa bignonioides</i>	southern catalpa
<i>Cephalanthus occidentalis</i>	buttonbush
<b><i>Cinnamomum camphora (I)</i></b>	camphor tree
<b><i>Colocasia esculenta (I)</i></b>	wild taro
<i>Cyperus odoratus</i>	fragrant flatsedge
<i>Echinochloa walteri</i>	coast cocksbur grass
<i>Eleocharis baldwinii</i>	road-grass
<i>Eupatorium capillifolium</i>	dogfennel
<i>Hydrocotyle</i> sp.	water pennywort
<i>Hygrophila</i> sp.	swamp weed
<i>Hygrophila polysperma</i>	dwarf hygrophila
<i>Ipomoea</i> sp.	morning glories
<i>Iris hexagona</i>	dixie iris
<i>Itea virginica</i>	Virginia sweetspire
<i>Juglans nigra</i>	black walnut
<b><i>Ligustrum sinense (I)</i></b>	Chinese privet
<i>Liquidambar styraciflua</i>	American sweetgum
<i>Lobelia cardinalis</i>	cardinal flower
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Ludwigia arcuata</i>	needleleaf ludwigia
<i>Lygodium japonicum</i>	Japanese climbing fern
<i>Lygodium microphyllum</i>	old world climbing fern
<i>Magnolia grandiflora</i>	southern magnolia
<i>Magnolia virginiana</i>	sweetbay magnolia
<i>Mikania scandens</i>	climbing hempvine
<i>Morus rubra</i>	red mulberry
<i>Myrica cerifera</i>	wax myrtle

<b>Species Name</b>	<b>Common Name</b>
<i>Najas filifolia</i>	needleleaf waternymph
<i>Najas guadalupensis</i>	southern waternymph
<i>Nyssa aquatica</i>	water tupelo
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo
<b><i>Oxycaryum cubense</i></b>	burhead sedge
<i>Panicum hemitomon</i>	maidencane
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Paspalidium geminatum</i>	Egyptian paspalidium
<i>Pinus taeda</i>	loblolly pine
<i>Polygonum densiflorum</i> ( <i>glabrum</i> )	denseflower knotweed
<i>Polygonum punctatum</i>	dotted smartweed
<i>Quercus nigra</i>	water oak
<i>Quercus virginiana</i>	southern live oak
<i>Rhexia mariana</i>	maryland meadowbeauty
<i>Rubus argutus</i>	sawtooth blackberry
<b><i>Ruellia simplex</i> (I)</b>	Mexican bluebell
<i>Sabal palmetto</i>	cabbage palm
<i>Sagittaria latifolia</i>	broadleaf arrowhead
<i>Salix carolina</i>	coastal plain willow
<b><i>Salvinia minima</i></b>	water spangles
<i>Sambucus canadensis</i> subsp. <i>nigra</i>	American elderberry
<b><i>Sapium sebiferum</i>(I)</b>	Chinese tallow tree
<i>Schoenoplectus californicus</i>	giant bulrush
<i>Smilax</i> sp.	greenbrier
<i>Solidago</i> sp.	goldenrod
<i>Spirodela polyrhiza</i>	common duckweed
<i>Taxodium ascendens</i>	pond cypress
<i>Toxicodendron radicans</i>	eastern poison ivy
<b><i>Tradescantia fluminensis</i> (I)</b>	wandering jew
<i>Triadenum virginicum</i>	marsh st. johnswort
<b><i>Urochloa mutica</i> (I)</b>	paragrass
<i>Vitis rotundifolia</i>	muscadine
<b><i>Wisteria sinensis</i> (II)</b>	Chinese wisteria
<i>Woodwardia areolata</i>	netted chain fern
<i>Woodwardia virginica</i>	Virginia chain fern

I - Category I Invasive Exotics

II - Category II Invasive Exotics

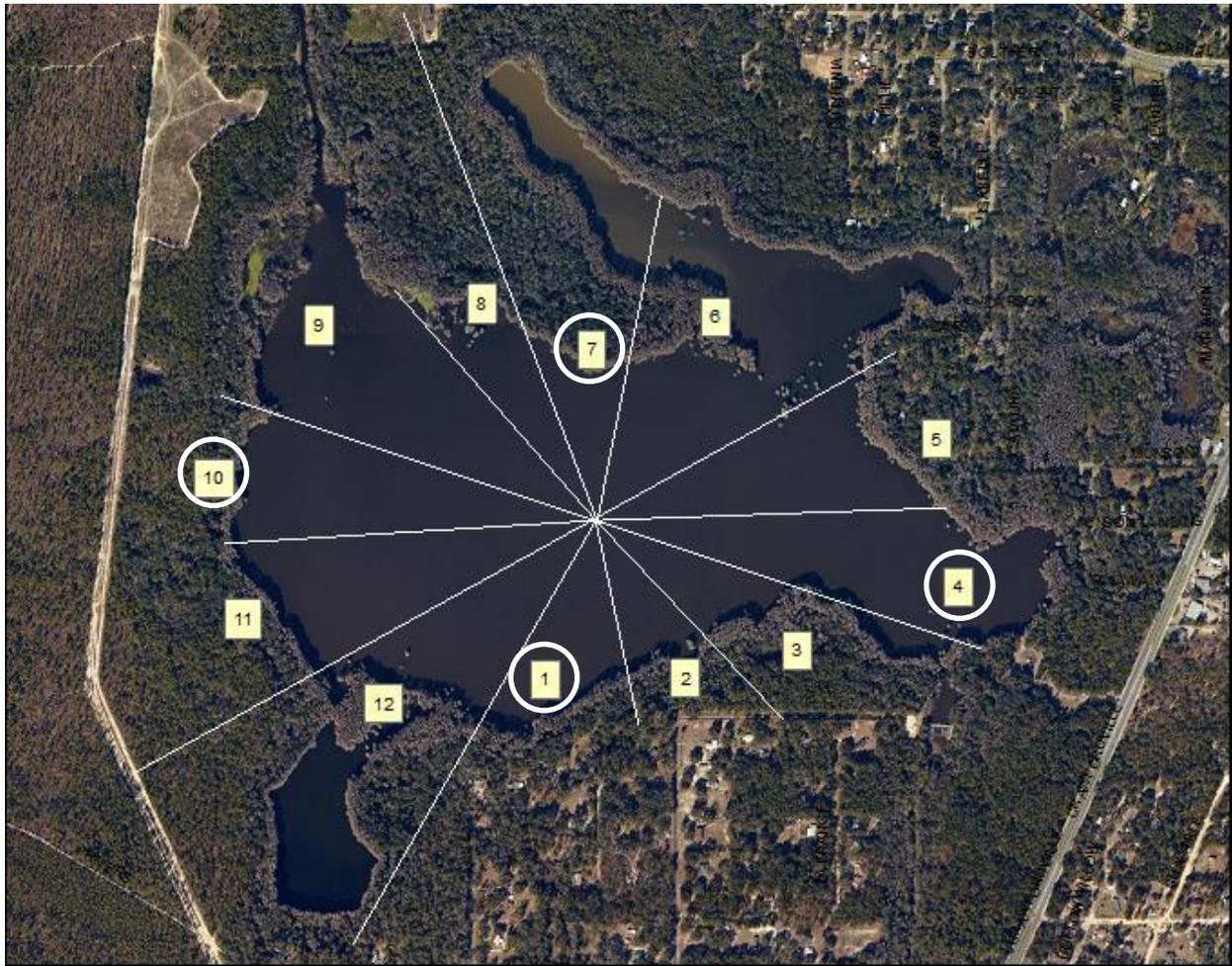
Names in bold are exotics

For additional information about the LVI please go to the Florida Department of Environmental Protection webpage;

[http://www.dep.state.fl.us/water/sas/training/docs/lvi\\_primer.pdf](http://www.dep.state.fl.us/water/sas/training/docs/lvi_primer.pdf).

For additional information about exotic Category I and II invasive exotic plants, please go to the Florida Exotic Pest Plant Council

<http://www.fleppc.org/list/list.htm>.



**FIGURE 1. Lake Munson showing unit divisions. Circled numbers denote surveyed units.**